



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D119-796-141TRN
Job Sheet 183555



Part No: D119-796-141TRN

Job Qty: 1 ea

Part Name: Crosstube Turning Detail



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/20/18

Job Tracking No:

Due Date: 9/21/18

Created By: Jesse White

Type: SOLD

Description:

Note: D119-796-141 REV H IPP REV A RQ 14/06/06 VERIFIED BY DD IPP REV:B 16.05.04 AS PER DWG REV.H
DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		9/21/18	0.00	0.00	Start Up Crosstubes-1		MD
100	Mori Seiki	1 pcs		9/21/18	1.99	1.52	Mori Seiki TL-40		MD
110	QC	1 pcs		9/21/18	0.00	0.00	QC2		MD
120	Mori Seiki	1 pcs		9/21/18	0.00	1.52	Mori Seiki TL-40		MD
130	QC	1 pcs		9/21/18	0.00	0.00	QC2		MD
140	QC	1 pcs		9/21/18	0.00	0.00	QC8		GP
145	Crosstubes	1 pcs		9/21/18	0.00	0.33	Crosstubes-1		DP2
150	HandFXtube	1 pcs		9/21/18	0.00	0.40	Crosstubes-3		DP2
160	QC	1 pcs		9/21/18	0.00	0.00	QC7-1		DP2
170	Packaging	1 pcs		9/21/18	0.00	0.00	Packaging3-1		MD
180	QC21-FG	1 Ea		9/21/18	0.00	0.00	QC21		MD

Part Op 100 - 1-Fill tube with sand & install plugs on both ends as per Folio FB316 2-Turn first side as per Folio FB316 3-Blend
Descriptions: transition lines only, **do not sand whole tube**: FOLIO REV: H DWG REV: H *Use mill bastard
file, brush file repeatedly with file card. *Do not use sandpaper coarser than 320 grit.
120 - 1-Turn second side as per Folio FB316 2-Blend transition lines only, **do not sand whole tube**: 3-Remove sand
and plugs 4- scribe batch # and part # as per dwg
145 - GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.
150 - 1- handfinish X-TUBE INSIDE AND OUT 2- ALODINE AND ACID ETCH X-TUBE INSIDE AND OUT. USE RED
SCOTCH BRITE
170 - LOCATION : LG014

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6024-103	Crosstube Material	1 Ea (1 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D6024-103	1	24	0

Part Specifications

Specifications could not be found.

Plex 9/20/18 10:46 AM dart.white.jesse



Container No: S112427



Part: D119-796-141TRN

Job No: 183555

Serial No/Batch: S112427

Revision: H

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 813 632-8200
Email: sales@dartaero.com
www.dartaerospace.com

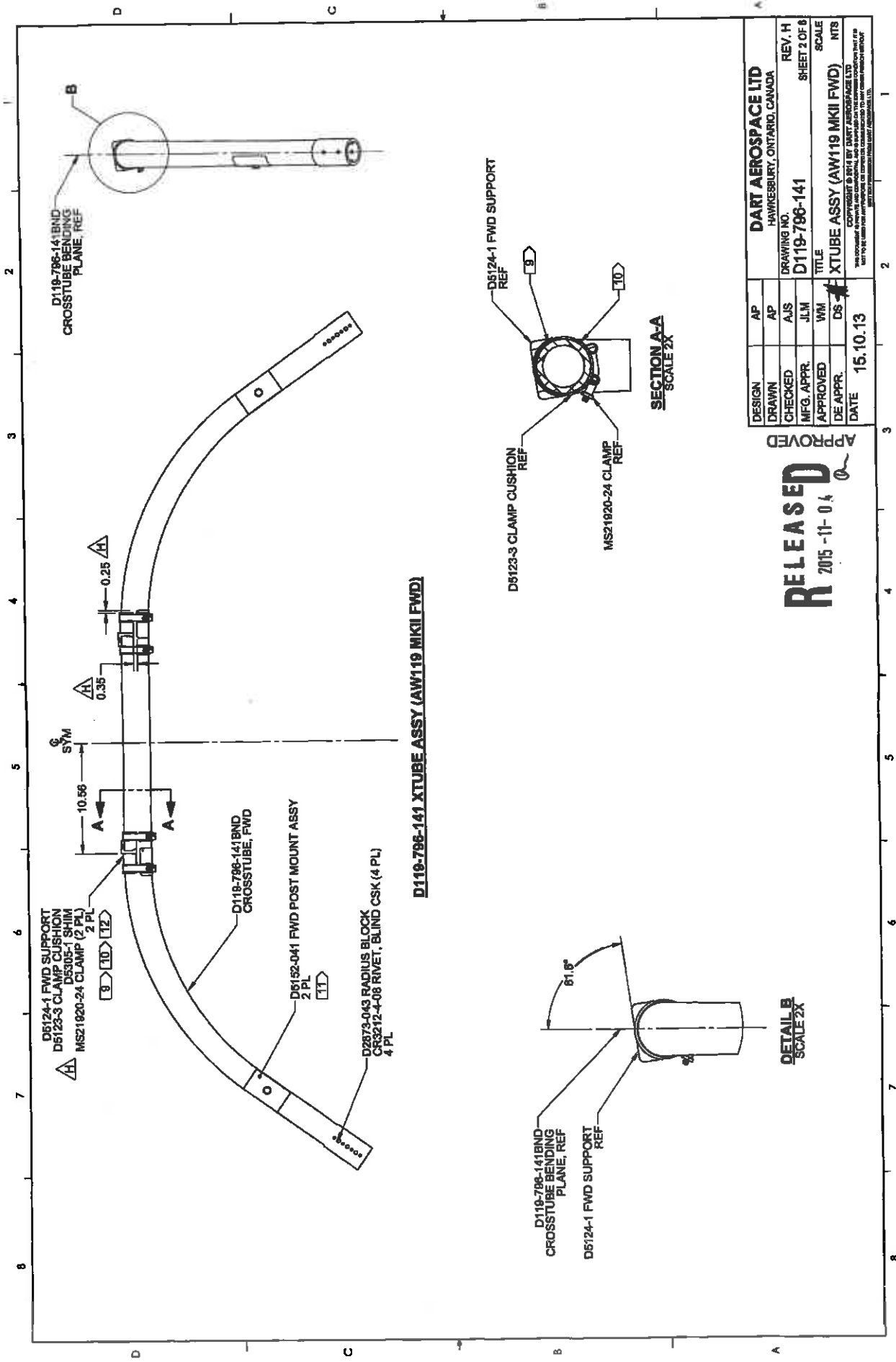
Date: 09/21/18

③

DART AEROSPACE LTD	Work Order:	183555
Description: Crosstube Assembly (AW119 MKII Fwd)	Part Number:	D119-796-141TRN
Inspection Dwg: D119-796-141 Rev: H		Page 1 of 2

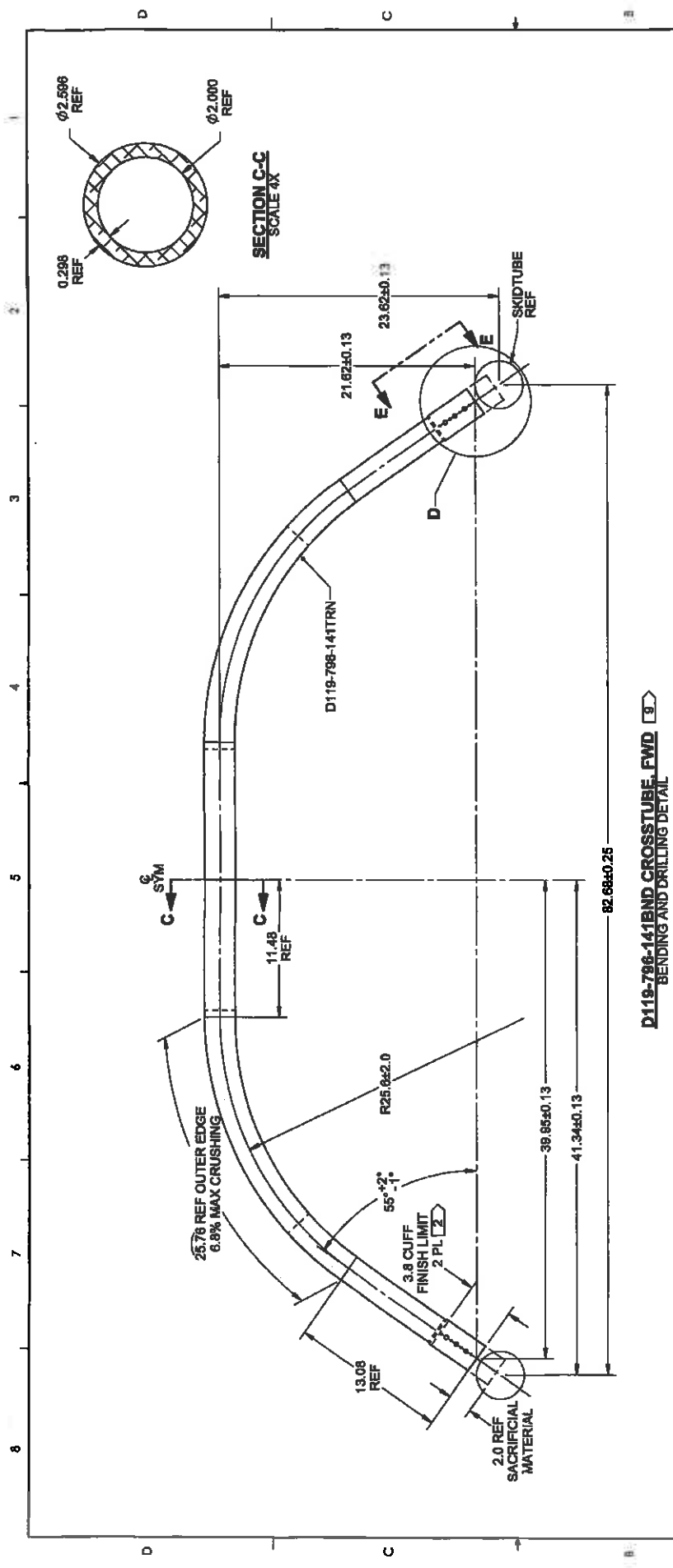
FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	6.00	+/-0.030	6.001	✓		CNC-08
	2.516	+/-0.005	2.518	✓		CNC-04
	2.333	+0.005/-0.000	2.338	✓		
	2.333	+0.005/-0.000	2.338	✓		
	2.408	+0.005/-0.000	2.413	✓		
	2.502	+0.005/-0.000	2.507	✓		
	2.596	+0.005/-0.000	2.600	✓		
	2.596	+0.005/-0.000	2.600	✓		
SIDE B	6.00	+/-0.030	5.995	✓		CNC-08
	2.516	+/-0.005	2.518	✓		CNC-04
	2.333	+0.005/-0.000	2.338	✓		
	2.333	+0.005/-0.000	2.338	✓		
	2.408	+0.005/-0.000	2.413	✓		
	2.502	+0.005/-0.000	2.507	✓		
	2.596	+0.005/-0.000	2.600	✓		
	2.596	+0.005/-0.000	2.600	✓		
	102.26	+/-0.020	102.280	✓		Tape



RELEASED
2015-11-04

DESIGN	AP	DART AEROSPACE LTD		
DRAWN	AP	HAMMERSLEY, ONTARIO, CANADA		
CHECKED	AJS	DRAWING NO.	REV. H	SHEET 2 OF 8
INFO. APPR.	JLM	D119-796-141		
APPROVED	WMI	TITLE	SCALE	
DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS	
DATE	15.10.13	THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED FOR THE PURPOSES SPECIFIED ONLY. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.		



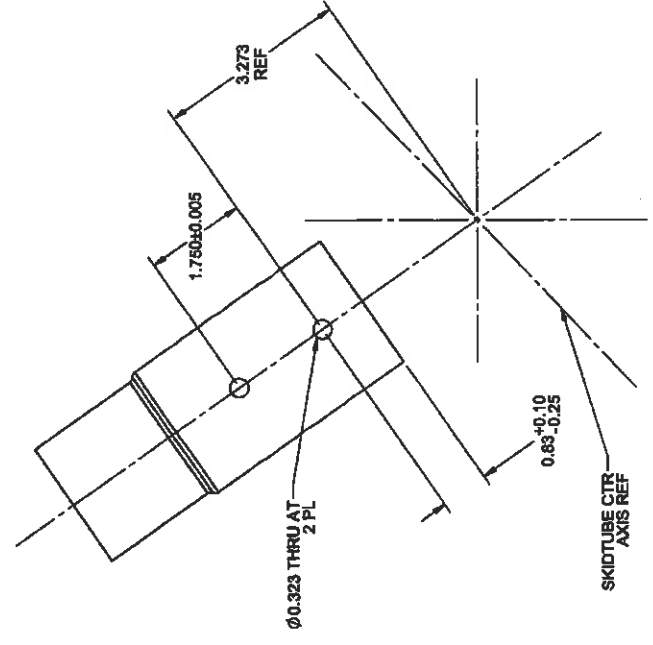
D119-796-141BND CROSSTUBE FWD 9
BENDING AND DRILLING DETAIL

- NOTES:
- 1) MATERIAL: MADE FROM D119-796-141TRN
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
DO NOT PERMIT PRIMER TO CRACKS IN LOCATION SHOWN, MASK PRIOR TO FINISHING
 - 3) TOLERANCES PER D119-796-141TRN
 - 4) UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 16.70 lbs
 - 8) PART IS SYMMETRICAL ABOUT CENTERLINE
 - 9) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6.8% BASED ON OD.
 - 10) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038
 - 11) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM DEFECTS SUCH AS SCRATCHES, NICKS OR DENTS. DEFECTS UP TO 0.005 MAY BE BLENDING OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

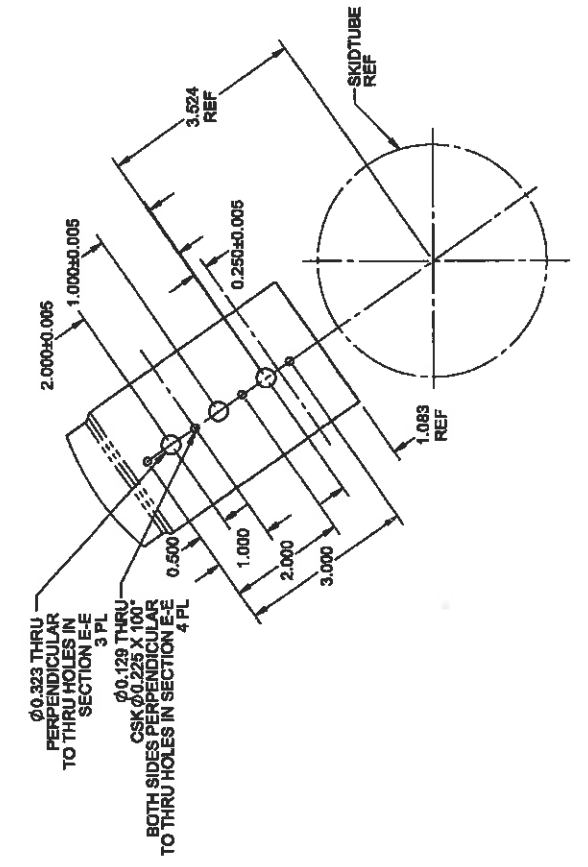
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DESIGN	AP	AP	DART AEROSPACE LTD
DRAWN	AP	AP	HAWKESBURY, ONTARIO, CANADA
CHECKED	AJS	AJS	DRAWING NO.
MFG. APPR.	JLM	JLM	D119-796-141
APPROVED	WM	WM	REV. H
DE APPR.	D8	D8	SHEET 3 OF 6
DATE	15.10.13	15.10.13	TITLE
			CROSSTUBE ASSY (AW119 MKII FWD)
			SCALE
			NTS



VIEW E-E
SCALE 2X



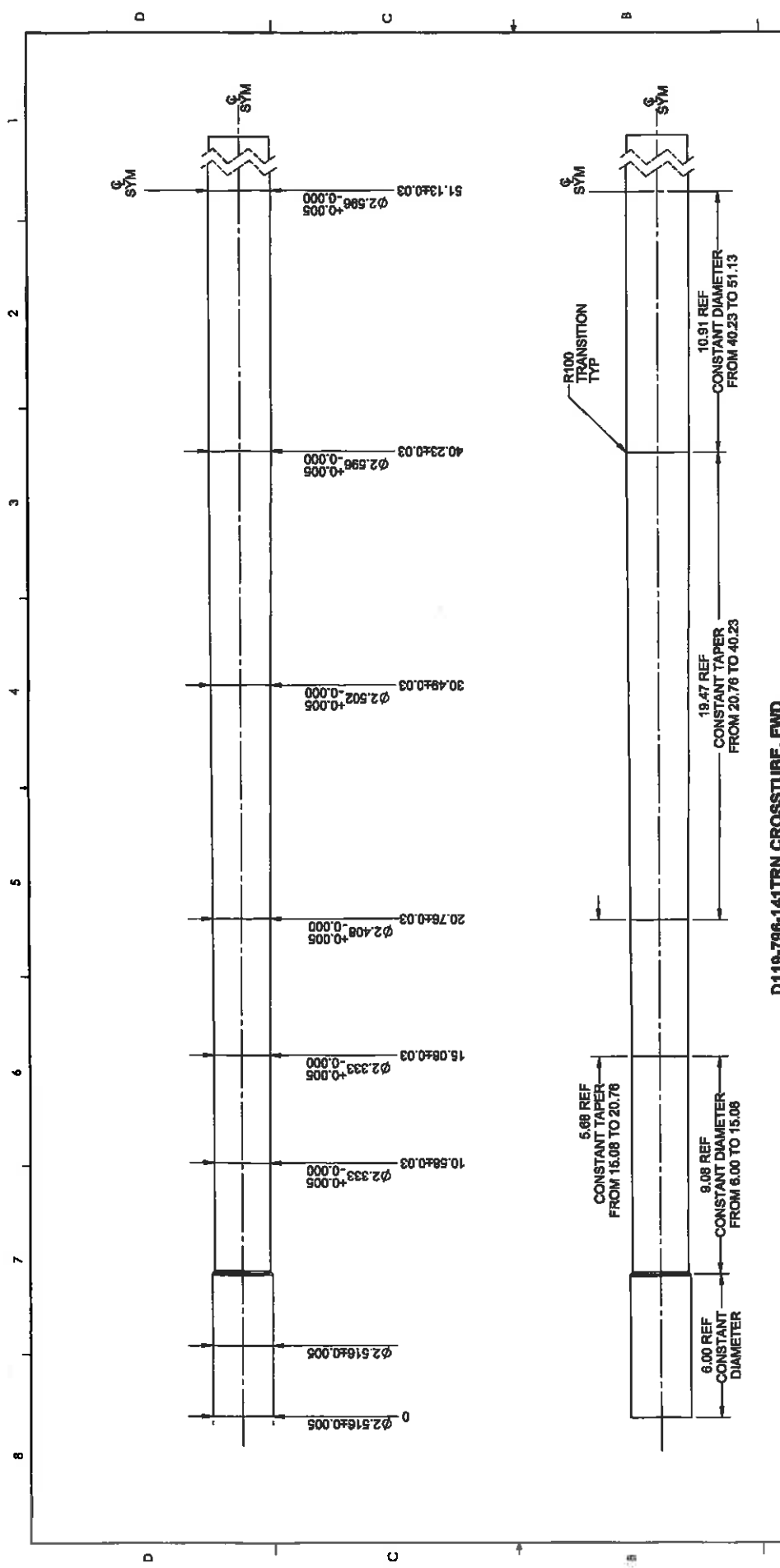
VIEW D-D
SCALE 4X

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R 2015-11-04

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DRAWN	AP	HAWKESBURY, ONTARIO, CANADA
CHECKED	ALJ	DRAWING NO.
MFG. APPR.	JLM	D119-798-141
APPROVED	WM	REV. H
DATE	DS	SHEET 4 OF 8
15.10.13	15.10.13	XTUBE ASSY (AW119 MKII FWD)
		SCALE
		NTS

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D119-796-141 TRN CROSS-TUBE, FWD

- NOTES:
- 1) MATERIAL: MANUFACTURE FROM D6024-103 (PREFERRED) OR D6005-103 (FINISHED LENGTH = 102.28 ±0.020 (BEFORE BENDING/TRIMMING))
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 16.70 lbs
 - 8) PART IS SYMMETRICAL ABOUT CENTERLINE

DESIGN	AP	AP	DART AEROSPACE LTD
DRAWN	AP	AP	HAWKESBURY, ONTARIO, CANADA
CHECKED	AJS	AJS	DRAWING NO.
MFG. APPR.	JLM	JLM	D119-796-141
APPROVED	VM	VM	REV. H
DE APPR.	DS	DS	SHEET 5 OF 8
DATE	15.10.13	15.10.13	TITLE
			XTUBE ASSY (AW119 MKII FWD)
			SCALE
			NTS

RELEASED
2015-11-04

CHAMFER ID
AS REQUIRED
FOR TOOLING

F

SYM



51.13±0.03
0.288 REF
NOMINAL WALL

40.23±0.03
0.288 REF
NOMINAL WALL

30.48±0.03
0.251 REF
NOMINAL WALL

20.78±0.03
0.204 REF
NOMINAL WALL

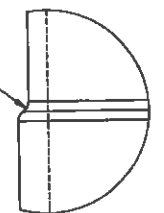
15.08±0.03
0.187 REF
NOMINAL WALL

10.58±0.03
0.187 REF
NOMINAL WALL

0.258 REF
NOMINAL WALL

D1119-796-141TRN CROSSTUBE FWD
SUPPLEMENTAL VIEW: NOMINAL WALL THICKNESS

R0.10
2PL



DETAIL F
SCALE 2X

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2015-11-04

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DESIGN	AP	AP	DART AEROSPACE LTD
DRAWN	AP	AP	HAWKESBURY, ONTARIO, CANADA
CHECKED	AJS	REV. H	
INFO. APPR.	JLM	DRAWING NO.	D1119-796-141
APPROVED	WM	SHEET 8 OF 9	
DE APPR.	DS	TITLE	XTUBE ASSY (AW119 MKII FWD)
DATE	15.10.13	SCALE	NTS

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and
11 Jul 2019

Entered: _____ Date: _____ **WORK ORDER NON-CONFORMANCE / ROUTE UPDATE**

Route update only ☐

NCR No.

19-7297

Job:

193555

Part No.

0119796-741

TRK

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☒

DEPARTMENT/PROCESS

Cross tube ☒
Small Fab ☐
Finishing ☐
Skid-tube ☐
Machining ☐
Large Fab ☐
Eng. (Non-AW) ☐
Prod. Eng. Coord. ☐
Rec/Store/Packaging ☐
Engineering ☐
Water Jet ☐
Supplier ☐
Quality ☐

Date :

18.09.24

Sequence #:

Description Work Order Deviation

QTY Affected :

Disposition

Well thickness measurement is over tolerance.
Min well is 0.023 below nominal.

Acceptable. ~~18.09.24~~ within tolerance
of new material.

MRB (QS1042)

DAS
12
9-89

18.09.24

Completed By

12
9-89

Lead hand / Supervisor

[Signature]
18.09.24

QC/QA Coordinator

DAS
55
9-89

19-7-11

Root Cause

Operator ☒
Manufacturing Process ☐
Equip/Tooling ☐
Handling/Preservation ☐
Material ☐
Product Improvement ☐
Process Improvement ☐
Human Factors ☐

FAULT CATEGORY

Pressure/Forced ☐
Bending ☐
Crushing ☐
Cracks ☐
Crimp/Kink/Ripple/Wave/Twist ☐
Marks/Chatter ☐
Mislabeled ☐
Other/Details: _____
Contamination ☐
Misaligned/off center ☐
BOM/Route ☐
Broken/Damage/Defect ☐
Incomplete/Unclear Instructions ☐
Drill Holes ☐
Fit/Function ☐
Power Loss/Surge ☐
Folio/Program ☐
Grain Direction ☐
Weld ☐
Wrong Stock Pulled ☐
Out of Sequence ☐
Off-set/Set-up ☐

Positioned Wrong ☐
Outside Tolerance ☒
Drawing ☐
Finish ☐
Part Lost/Missing ☐
Misread ☐